STATE OF COLORADO

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Roy Romer
Governor

Thomas M. Vernon, M.D.
Executive Director

October 30, 1990

Mr. Martin Hestmark
U.S. Environmental Protection Agency
Region VIII
999 18th Street, Suite 500, 8WM-C
Denver, Colorado 80202-2405

RE: REVIEW AND COMMMENT, QUALITY ASSURANCE PROJECT PLAN AND STANDARD OPERATING PROCEDURES, U.S. DOE ROCKY FLATS PLANT, OCTOBER, 1990

Dear Mr. Hestmark,

The Colorado Department of Health, Hazardous Materials and Waste Management Division (the Division), has reviewed both of the above referenced documents submitted by DOE and its prime operating contractor, EG&G. The Division's comments are attached.

It is the intent of the IAG that site-wide documents provide definitive and detailed guidance for all future activities involved in certain phases of the environmental restoration of RFP. Site-wide documents are part of the IAG to avoid addressing these various issues in an OU specific or a document specific manner. Only amendments and/or addenda to the site-specific documents will be necessary once site-wide documents are in place. After review of the QAPP and SOP's, it is apparent that they do not accomplish this goal for site-wide documents.

Within the IAG Statement of Work, the following text appears in Section IV, IV.A, and IV.B:

> IV. The SAP shall consist of two parts: a quality assurance project plan (QAPP) that describes the policy, organization, functional activities, and quality assurance protocols necessary to achieve the data quality objectives dictated by the intended use of the data . . .and standard operating procedures (SOP) which detail the field techniques to be utilized during the investigation of the Site, and provide guidance for the perfomance of all fieldwork.
>
> IV.A The QAPP shall consist of at least the following elements: . . .sampling procedures; detection limits; sample custody; calibration procedures; analytical procedures; . . .
>
> IV.B The SOP shall describe in detail, specific sampling techniques . . .(emphasis added)

After review, it was apparent that both the QAPP and the SOP's are not written with nearly enough attention to detail. Yet, based on the above quotes, this was clearly intended in the IAG. In their present form, both are very generic reports that appear to meet the requirements set forth in the guidance documents, but specifics within these requirements are almost universally avoided. This lack of specifics sabotages the documents for their intended use.

The Division is concerned that the lack of detail in these documents will result in excessive amounts of time spent working to produce and review future site-specific QAPP's and SOP's. In addition, corrective action oversight (both external and internal) will be impossible based on the QA and SOP plans in their present form. For example, small variations in the sampling procedure for ground water can have a significant effect on ultimate data quality, particularly at the contaminate concentrations present at RFP. If the procedures are unspecified, then everyone from the sampler to the regulator is unclear on the complete procedure and this could result in questionable data.

We do not believe that the IAG intended for these documents, once written and approved, to be set in stone. In fact, documents such as these need to be dynamic. As new techniques prove better than old and new analytical technology becomes practical, these improvements should be incorporated. It is hoped that these two documents will act as a set of reference guidance manuals for all personnel and all procedures associated with environmental restoration at RFP. The QAPP and SOP could then fulfill their intended role of assuring quality data by standardizing methods.

This letter is asking for a complete restructuring of these documents. Hopefully, this will not be as unwieldy a task as it seems. Many of the procedures described by these documents are already being done at RFP. Surely, somewhere, there exists a detailed SOP for each. By compiling and standardizing these specific SOP's, a large portion of the deficiencies of these documents will have been addressed.

If you have any questions concerning these comments, please contact Joe Schieffelin of my staff at 331-4421.

Sincerely,

Gary W. Baughman

Gary W. Baughman
Unit Leader, Hazardous Waste Facilities
Hazardous Materials and Waste Management Division

cc: Dan Miller, AGO
Robert M. Nelson, DOE/RF
Fraser Lockhart, DOE/RF
Philip Warner, EG&G/RF
Tom Greengard, EG&G/RF
Joe Palomba, RFPU

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TO: The US Department of Energy

FROM: The Colorado Department of Health

SUBJECT: Review and comment, RFP Site-wide Quality Assurance Project Plan, Draft Version, August, 1990

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General Comments

Comment 1:

Because the SOP's and the QAPP are so inter-dependent, there needs to be a set of cross-references developed to ease the transition between documents. In fact, it would be nice if every sub-section within the QAPP had a cross-reference to every SOP that played a part in satisfying the QA requirements (and vice versa).

Comment 2:

There is a frustrating lack of detail in the text and many of the generic references to sample handling and procedural items and/or methods do not satisfy the specificity that the guidance documents require. Descriptions of many items are only complete when used with the SOP's. There are instances, however, where even the additional information in the SOP does not adequately address requirements of the guidance documents. It is, therefore, the request of the Division that an effort be made to assure that all required information reside either within the QAPP or associated SOP's.

Comment 3:

Because this document is so generic, site-specific QAPP's are going to be necessary. These site-specific plans will have to address all the items necessary to assure the regulating agencies as well as the public that quality data is, in fact, assured. We cannot tolerate delays in the remediation schedules that arise because of bad or suspect data. A generic document such as this does not assure or ensure anything.

Comment 4:

The best part of this document is Appendix A. Several other portions of this document could benefit from similar treatment, particularly when these comments repeatedly ask for more detail on procedures and/or methods. Sections 4.0, 5.0, 6.0, 8.0, 9.0,11.0, 13.0, 15.0, and 16.0 might qualify for expanded appendix-like treatment as may others. Quality data is the building block for all of the remaining ER work, yet the guidance documents

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consistently demand more than this report delivers. It is hoped that this document can be the basis for the site-specific QA plans that will be necessary, rather than having to re-invent the wheel each time.

Comment 5:

It was very difficult to evaluate this QAPP against the requirements of the guidance documents, particularly the Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, December, 1980 promulgated by the EPA. Figure 2.1 makes an effort to do this, but adding these references as a postscript to the appropriate section(s) of text would also be very helpful.

Specific Comments:

Comment 1: Project Description

From the definition of the Project Description in the guidance document referenced above, this section should describe the QA project and the data quality and data use objectives. In this section, the document only describes RFP and its environs and has no mention of the real project or the purpose of the document.

Comment 2: Figure 2-1

This figure is a very good idea. However, several of the items are improperly or incompletely referenced. For items 9 and 14, a search of the referenced QAPP section failed to find appropriate text. Item 11 was not found in section 3.3.10, but was addressed in section 3.3.4. Several other items may be more completely addressed by combining explanations that reside in more than one section. If so, they should be referenced as such, similar to items 6 and 8.

Comment 3: Section 2.6 QA Reports to Management

According to the guidance document, a more specific time table of reports is necessary. Are these reports going to be monthly, quarterly, or weekly? What is the purpose of these reports? Are they informative only, or are they results oriented? Some sort of data quality responsibility and resulting liability needs to be addressed here rather than just "guidance" and "problem documentation."

Comment 4: Section 3.3.1 Data Quality Objectives

This section refers to EPA/540/G-87/003 several times as a reference guide to various processes. Please give actual quotes from this document in describing these processes rather than just another generic reference.

Appendix A is a very good addition to this document. It is the only place where specifics are addressed. However, a summary outline of Appendix A should be added to section 3.3.1 so that an idea the actual DQO's is addressed in the section bearing that name.

Comment 5: Section 3.3.3 Data Reduction

Specific references to the applicable SOP's are necessary in this section to satisfy the requirements of the EPA QA guidance document. This is true for each of the sub-sections as well (reduction, field data validation, lab data validation, and reporting).

Comment 6: Section 3.3.4.1 Field Sampling QC Procedures

Within the EPA QA guidance document, spiked samples, split samples, quality control samples, and reagent checks are listed as required items for this section. Furthermore, they are already used at RFP by field sampling teams. Please add a paragraph explaining each of these items to this section.

Comment 7: Section 8.3.2.1 Control of Shelf Lives

Either an explanation of the exact procedures used or a reference to the applicable SOP is necessary in this section.

Comment 8: Section 8.0

This section is referenced on Figure 2.1 as being the location of the Sample Custody requirements of the EPA Guidance Document. However, discussion of the documentation of "procedures for preparation of reagents or supplies which become an integral part of the sample, recording the exact location and specific considerations associated with sample acquisition, and specific sample preservation method" were not located. Each of these is a requirement of the guidance document. In addition, sample custody within the laboratory (i.e. handling, storage, and disbursement) is inadequately addressed.

Comment 9: Section 12.3.3 Calibration

According to the EPA Guidance Document, this section should address all applicable SOP's that specify a written calibration procedure for each calibration performed. In addition, specific calibration frequency needs to be indicated as well as specific calibration standards.

Comment 10: Section 12.3.5 Preventative Maintenance

Reference to all applicable SOP's is needed in this section.

Comment 11: Section 16.3.1

Within the first sentence of this section, "established operating

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limits" are referred to. Who established these limits and where are they documented?

Comment 12: Section 16 Corrective Action

Corrective action that results from performance and system audits and laboratory comparison studies is not addressed here. Also, some discussion as to how corrective action will result in future avoidance of the problem needs to be added.

TO: The US Department of Energy

FROM: The Colorado Department of Health

SUBJECT: Review and comment, RFP Site-wide Standard Operating Procedures, Draft Version, August, 1990

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General Comments

Comment 1:

Like the QAPP, this document is plagued by a lack of detail, particularly when describing specific procedures. Please refer to General Comments 1, 2, and 3 for the QAPP.

Comment 2:

Checklists, as they apply to each SOP, would greatly aid on-site personnel as well as over-site regulators. Checklists ensure a complete procedure and enhance accuracy and standardization. They should be incorporated into the SOP's as often as possible.

Comment 3:

Throughout the SOP's, it is noted that required forms will be maintained on file. How long will these be maintained and with whom? In what formats? Will these forms be readily accessible to both CDH and EPA personnel?

Comment 4:

Each SOP states that "only qualified personnel" will be allowed to perform the given procedure. These qualifications are listed in some of the SOP's, but not in others. Please add them where they were omitted.

Specific Comments:

Volume 1: Field Operations

Comment 1: SOP 1.3 Section 6.0

Will a specific decontamination level be established for each site being monitored, or will certain site-wide levels be established?

Comment 2: SOP 1.5 Section 6.1

Several times in this and other sections, a "liquid waste area" is

referred to. Please clarify this term with some added text.

Comment 3: SOP 1.5 Section 6.1

An organic vapor detector (OVD) detects only certain organic materials but does not monitor metals or inorganics. If inorganic or metallic contamination is found in a supposedly "uncontaminated" area (as it has been in the past), what will be done to limit the possible contamination in the area where purge water and development water is to be dumped on the ground? It may be best to containerize the water and treat it as waste water to prevent further contamination in an area.

Comment 4: SOP 1.7 Section 6.0

Using an OVD to detect possible organic contamination does not preclude the possibility of inorganic or metallic contamination being present.

Comment 5: SOP 1.9 Sec. 5.2.2

The first paragraph of this section needs some clarification. As it reads now, this section implies that all cores taken in contaminated areas will not be kept at the on-site repository for future reference but disposed of as hazardous waste. Are we throwing the baby out with the bath water? This core and rock data is vital and is a major reason that holes are drilled in the first place. If a core is so contaminated that it cannot reside in storage, at least a complete set of core photographs should be taken to accompany the on-site lithologic description before disposal of the core. This should be part of the standard operating procedure.

Comment 6: SOP 1.10 Sec. 6.2.1

No reference is made in the first paragraph of this section to any liquid waste characterization before the gray drums are emptied into the "liquid waste area." Please add a statement to that effect as mixing these waste liquids before they have been identified is not a wise or prudent action.

Volume 2: Groundwater

Comment 1: SOP 2.1 Section 7.0

The term "military time" should be replaced with a term or phrase denoting a twenty-four hour clock.

Comment 2: SOP 2.2 Sec. 5.2.1

In the third bullet of the second paragraph there is a wording error. The first sentence has two 5's where only one is needed.

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Comment 3: SOP 2.3 Sec. 5.2.1

In the second paragraph of this section, there is a sentence that says "If either of the pressure transducers above or below the test section show a pressure response to flow in the test section, the packers will be reseated to eliminate leakage around them." Does this pressure increase in the above and below transducers necessarily mean that the packers are leaking? In a test within an interval of unconsolidated alluvium where the water flowing into the zone during the test has no bedding boundaries to contain it, there may well be flow in zone that flows around the packers and re-enters the wellbore.

Comment 4: SOP 2.3 Sec. 5.2.1

The third paragraph talks in detail about hydraulic fracturing. In particular, the last sentence says that the pneumatic pressure applied to the reservoir should not exceed 0.07 psi per foot of depth to the test section. Could you give an example of this and discuss what the ramifications of this concept are to the average well at RFP?

Comment 5: SOP 2.6 Section 10.2

How will samplers ensure that the rate of water withdrawal does not exceed the rate of withdrawal at which a well was developed? Are the well development rates available for each well so that sampling crews will know what rate they must not exceed?

Volume 3: Geotechnical

Comment 1: SOP 3.1 Sec. 5.1.2.1

There is reference in this section to a "Figure 1." Where is this figure?

Comment 2: SOP 3.1 Sec. 5.1.4

There is reference in this section to a "Figure 2." Where is this figure?

Comment 3: SOP 3.1 Sec. 5.2.2.3

There is reference in this section to Figures 3, 4, and 5. Where are these figures?

Comment 4: SOP 3.1 Sec. 5.2.5

There is reference in this section to a "Figure 6." Where is this figure?

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Comment 5: SOP 3.1 Sec. 5.2.9

There is reference in this section to a Figure 7. Where is this figure?

Comment 6: SOP 3.1 Sec. 6.1

The item listed in the seventh bullet is a measuring tape. The scales listed are not compatible. It is assumed that what is intended here is a scale in tenths of a foot on one side of the tape and a scale showing tenths of an inch on the other.

Comment 7: SOP 3.1 Section 6.3.2

If the cores or cuttings recovered are found to be contaminated, what precautions will be taken to prevent spread of contamination to personnel logging the material?

Comment 8: SOP 3.1 Appendix A

Will sampling crews and other personnel using this SOP have legible copies of the USCS and ASTM D22 manuals available for use in the field? An effort should be made to obtain these in enough legible quantities for field personnel to use them.

Comment 9: SOP 3.2 Sec. 5.0

It would be very helpful if several well chosen diagrams were inserted in to this section. Possibly an illustration of a drilling rig with the major items labeled and a diagram of an auger and a split spoon sampler could be included.

Comment 10: SOP 3.3 Sec. 5.0

Diagrams would be helpful in this section also. See Comment 9.

Comment 11: SOP 3.3 Sec. 5.3

This section, starting at the second paragraph, would be much easier to understand if, instead of text, it was replaced with a list of procedures in chronological order. Again, a diagram would be very helpful.

Comment 12: SOP 3.5, 3.6, and 3.9

Diagrams, diagrams, diagrams. See Comment 9.

Comment 13: SOP 3.6 Section 3.6

It is previously noted in this and other SOP's that either stainless steel or PVC will be used as well casing. In this section, however, it states that only PVC will be used. Since there are known to be areas where the type of contamination will

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cause deterioration of the PVC, how will it be assured that only stainless steel will be used in these areas?

Comment 14: SOP 3.6 Section 7.0

What survey reference will be used to determine well casing elevations?

Volume 4:

Comment 1: SOP 4.2 Section 5.1

The National Bureau of Standards (NBS) is now the National Institute of Standards and Technology (NIST).

Comment 2: SOP 4.2 Section 5.6

What compounds and parameters will be used to determine proper preservation of volatile organic and cyanide samples?

Comment 3: SOP 4.5

This SOP would be more appropriately placed in the Field Operations section. Procedures listed are useful for most areas covered in these documents.

Comment 4: SOP 4.7 Section 4.1

It is not appropriate to list a specific person in a general document such as this. Job titles and duties change often and these changes make the document incorrect.